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09/904,956	07/14/2001	Avi Ashkenazi	10466/66	4189

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EXAMINER	
CHERNYSHEV, OLGA N	

ART UNIT	PAPER NUMBER
1646	

DATE MAILED: 04/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 January 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *39-47 and 49-51* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *39-47 and 49-51* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

4) ☐ Interview Summary (PTO-413)

2) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s).

DETAILED ACTION

Response to Amendment

1. Claims 39-44 have been amended and claim 48 has been cancelled as requested in the amendment of Paper filed on January 22, 2004. Claims 39-47 and 49-51 are pending in the instant application.

Claims 39-47 and 49-51 are under examination in the instant office action.

2. The Text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Any objection or rejection of record, which is not expressly repeated in this action has been overcome by Applicant's response and withdrawn.

4. Applicant's arguments filed on January 22, 2004 have been fully considered but they are not deemed to be persuasive for the reasons set forth below.

Claim Rejections - 35 USC § 101

5. Claims 39-47 and 49-51 stand rejected under 35 U.S.C. 101 because the claimed invention is drawn to an invention with no apparent or disclosed specific and substantial credible utility for those reasons of record in section 7 of Paper No. 10. Briefly, the instant application has provided a description of an isolated DNA encoding a protein and the protein encoded thereby. The instant application does not disclose a specific biological role for this protein or its significance to a particular disease, disorder or physiological process, which one would wish to manipulate for a desired clinical effect.

Beginning at page 13 of the Response, Applicant refers to the Utility Examination Guidelines and summarizes case law on the utility requirement (section 7 of the Response). Applicant further traverses the rejection on the premises that Example 77 of the instant specification "establish[es] patentable utility for the polypeptide PRO331". It is noted that Applicant refers to the claimed polypeptide as PRO331 and PRO266 interchangeably, while the instant specification designated the claimed polypeptide of SEQ ID NO: 91 as PRO266 (see Figures 33 and 34, page 60 of the instant specification, for example). Applicant is advised that for the purpose of answering to Applicant's Response "PRO331" is being interpreted as PRO266 in the instant office action.

Applicant submits that the instant specification discloses "cell infiltration assay in which PRO331 [PRO266] induces mononuclear cell, eosinophil and PMN infiltration into the site of injection of this peptide/protein into an animal". Applicant further argues that "agents capable of inducing inflammatory cell infiltration like PRO331 [PRO266], can be used, for example, to therapeutically boost an immune response in a given target tissue and are, therefore, promising drug candidates for the same" (pages 14-15 of the Response). These arguments were fully considered but are not deemed to be persuasive for the reasons that follow.

In Example 77 (page 210-211 of the instant specification), a sample of purified polypeptide is injected itradermally into the backs of hairless guinea pigs. The resulting blemishes at the injection sites are measured, and the injection sites are subjected to histopathological analysis to detect infiltration or inflammatory cells. Polypeptide PRO266 tested positive with visible inflammatory cells. The skin permeability/hypersensitivity test is well described in the art and is generally used as a first approach to toxicity testing of a new

compound (see Szalai et al., J. Immunology, 2000, 164, pp.463-8 and Barsoum et al., J. Antimicrobial Chemotherapy, 1997, 40, pp.721-4, for example). However, the instant specification, as filed, fails to disclose a specific biological significance of PRO266 in proinflammatory process. Based on the information provided, one skilled in the art would be able at most to conclude that PRO2666 is generally "capable of inducing an immune or inflammatory response"; however, any further assertion regarding a specific role of PRO266 in proinflammatory process appears to be lacking any evidence of record.

A specification can meet the legal requirements of utility and enablement for a new polypeptide as long as the specification discloses at least one credible, specific and substantial asserted utility for the new polypeptide, or a well-established utility for the claimed polynucleotide would be readily apparent to the skilled artisan. In the instant case, the instant specification fails to provide any evidence or sound scientific reasoning that would support a conclusion that PRO266 has a specific physiological role in inflammation or significance to a particular disease, disorder or physiological process, which one would wish to manipulate for a desired clinical effect.

Applicant further argues that "IL-8 (Interleukin 8) was identified using a neutrophil accumulation assay in rabbit skin" (bottom at page 14 of the Response). However, it is obvious that the discovery of a new member of interleukin family, IL-8, was not accomplished upon completion of neutrophil accumulation assay in rabbit skin. IL-8 was characterized and its function was established during further study and research. There is little doubt that, after complete characterization, PRO266 polypeptides of the instant invention may be found to have a

specific and substantial credible utility. This further characterization, however, is part of the act of invention and until it has been undertaken, Applicant's claimed invention is incomplete.

Thus, to employ a polypeptide of the instant invention "to therapeutically boost an immune response in a given target tissue" (middle at page 15 of the Response) would clearly be using it as the object of further research, which has been determined by the courts to be a utility, which, alone, does not support patentability. Since the instant specification does not disclose a substantial "real world" use for PRO266 protein in their currently available form, then the claimed invention is incomplete and, therefore, does not meet the requirements of 35 U.S.C. § 101 as being useful.

Claim Rejections - 35 USC § 112

6. Claims 39-47 and 49-51 stand rejected under 35 U.S.C. 112, first paragraph for reasons of record in section 8 of Paper No. 10. Specifically, since the claimed invention is not supported by either a clear asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

7. Claims 39-43, as amended, stand rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention for reasons of record in section 9 of Paper No. 10.

Applicant submits that because the claims now include recitation "capable of inducing an immune or inflammatory response", the instant claims now satisfy the written description

requirement. This argument has been fully considered but is not deemed to be persuasive because, as fully explained in the previous office action, the instant specification fails to describe the entire genus of the claimed polypeptides, which are 80%, 85%, 90%, 95% and 99% identical to the amino acid sequence having SEQ ID NO: 91 and are "capable of inducing an immune or inflammatory response". There is no disclosure of complete structure of the claimed polypeptides, or identification of any particular portion of the structure that must be conserved to retain the claimed function. The instant specification also fails to describe any other relevant identifying characteristics of the claimed genus of proteins (physical and/or chemical and/or functional characteristics coupled with a known or disclosed correlation between function and structure) or representative number of species within the genus, except for one polypeptide of SEQ ID NO: 91. Therefore, the claims are directed to subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

At page 16 of the Response Applicant refers to recitation of a specific and substantial utility now presented in the claims and further argues that complex experimentation to practice the instant invention does not render such experimentation undue (last paragraph, p. 16). It appears that Applicant is arguing utility, enablement and written description rejections concurrently. Applicant is reminded that *Vas-Cath Inc. v. Mahurkar*, 19USPQ2d 1111 makes clear that the written description provision of 35 U.S.C. §112 is severable from its enablement provision (see page 1115) and as such, reference to undue experimentation with regard to written description rejection appears to be misplaced. Furthermore, recitation of a function in the claims does not describe the genus of the claimed polypeptides, which remain defined only by sequence

identity. Lastly, because the instant specification does not disclose biological function of the claimed PRO266, and does not meet the requirements 35 U.S.C. § 101 as being useful as fully explained earlier, the addition of the limitation "capable of inducing an immune or inflammatory response" does not obviate the written description part of the rejection under 35 U.S.C. § 112, first paragraph.

8. Claims 39-47 and 48-51 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention for reasons of record in sections 12 and 13 of Paper No. 10. Specifically claims 39-44 and 46-47 are vague and indefinite for recitation of "associated signal peptide" and "extracellular domain" claimed to be shown in Figure 11. Applicant submits that the claims were amended to delete the indefinite recitations (last section of the Response). However, it is clear that the claims, as amended, still recite "associated signal peptide" and "extracellular domain", and, therefore, the rejection is maintained. Claims 45 and 49-51 are indefinite for being dependent from indefinite claims.

Conclusion

9. No claim is allowed.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olga N. Chernyshev whose telephone number is (571) 272-0870. The examiner can normally be reached on Monday to Friday 9 AM to 5 PM ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne Eyler can be reached on (571) 272-0871. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Certain papers related to this application may be submitted to Technology Center 1600 by facsimile transmission. Papers should be faxed to Technology Center 1600 via the PTO Fax center located in Crystal Mall 1 (CM1). The faxing of such papers must conform with the notices published in the Official Gazette, 1156 OG 61 (November 16, 1993) and 1157 OG 94 (December 28, 1993) (see 37 C.F.R. § 1.6(d)0. NOTE: If Applicant *does* submit a paper by fax, the original signed copy should be retained by Applicant or Applicant's representative. NO DUPLICATE COPIES SHOULD BE SUBMITTED so as to avoid the processing of duplicate papers.

Official papers filed by fax should be directed to (703) 872-9306. If this number is out of service, please call the Group receptionist for an alternative number. Faxed draft or informal communications with the examiner should be directed to (571) 273-0870. Official papers should NOT be faxed to (571) 273-0870.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Olga N. Chernyshev, Ph.D.

OLGA N. CHERNYSHEV, PH.D.
PATENT EXAMINER